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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,421	09/28/2000	Dov Bulka	40921-205583	8185

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SUITE 200 GENERATION PLAZA
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DURHAM, NC 27713

EXAMINER

CARDONE, JASON D

ART UNIT	PAPER NUMBER
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2142

DATE MAILED: 03/24/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/672,421

Applicant(s)

BULKA ET AL.

Examiner

Jason D Cardone

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4, 6-23 and 25-38 is/are rejected.
7) ☒ Claim(s) 5 and 24 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 28 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: See Attached Office Action.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 132, 133, 301, 304, 401-416, 501, 502 and 601-609. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "409" has been used to designate both "success" and "search for file" in figure 6. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 2, 10, 17-19, 21, 29 and 36-38 are objected to under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 2 and 21 disclose the memory component identifiers further comprise one or more characteristics. Some of the characteristics are within the written description but others (dynamic and renamed identifiers) are not shown and not reasonably conveyed within the specification. Claims 10 and 29 disclose updating the cache in accordance with a user specified routine. The specification does not show or convey the updating is with a user specified routine. Claims 17-19 disclose determining if a memory component identifier has been accessed by at least a one of a plurality of computer processes. The specification (written or within the figures) does not show or convey the plurality of computer processes. Therefore, claims 2, 10, 17-19, 21, 29 and 36-38 are rejected under 35 U.S.C. 112, first paragraph.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

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7. Claims 4 and 23 are objected to and rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 4 and 23 disclose a memory being accessible at a rate substantially faster than the rate at which data is stored. "Substantially" is indefinite for failing to particularly point out and distinctly claim the subject matter.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-4, 10-17, 20-23 and 29-36 rejected under 35 U.S.C. 102(e) as being anticipated by Risley et al. ("Risley"), USPN 6,332,158.

10. Regarding claim 1, Risley discloses a caching system for identifying memory component identifiers associated with data in a storage device, comprising: means for creating a cache of the memory component identifiers, wherein the memory component identifiers comprise identifiers that are invalid; and means for managing the cache of memory component identifiers [ie. cache for invalid web page addresses (memory component identifiers) Risley, col. 8, lines 46-58 and col. 9, lines 49-67].

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11. Regarding claim 2, Risley further discloses the memory component identifiers further comprise identifiers selected by a user [Risley, col. 5, lines 16-26 and col. 10, lines 14-31].

12. Regarding claim 3, Risley further discloses memory component identifiers further comprise identifiers that are valid [Risley, col. 8, lines 46-54 and col. 9, lines 49-52].

13. Regarding claim 4, Risley further discloses a disk drive including a disk in which is stored a tree structure of data located in directories and files; and a main memory for storing data, the data stored in the memory being accessible at a rate substantially faster than the rate at which data stored on a disk can be accessed [Risley, col. 8, lines 1-22 and col. 9, lines 28-35].

14. Regarding claim 10, Risley further discloses means for updating the cache by updating the memory component identifier in accordance with a user specified routine [Risley, col. 5, lines 16-26 and col. 10, lines 14-31].

15. Regarding claims 11-13, Risley further discloses the cache is one of a negative cache of memory component identifiers that are not associated with data in the storage device, wherein the negative cache comprises a predetermined number of cache entries for storing a history of the memory component identifiers that are not associated with data in the storage device, wherein the predetermined number of cache entries is

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based on usage of the memory component identifier [Risley, col. 5, lines 16-26, col. 9, lines 49-67 and col. 10, lines 14-31].

16. Regarding claims 14 and 15, Risley further discloses the negative cache comprises a percentage of cache entries stored in a cache system of valid memory component identifiers, wherein the negative cache is used for storing a history of the memory component identifiers that are not associated with data in the storage device [Risley, col. 9, lines 19-35 and col. 10, lines 14-31].

17. Regarding claim 16, Risley further discloses the cache is further comprises a positive cache of memory component identifiers that have been written to at least one storage device [Risley, col. 8, lines 46-54 and col. 9, lines 49-52].

18. Regarding claim 17, Risley further discloses means for determining if at least one memory component identifier has been accessed by at least one of a plurality of computer processes [Risley, col. 10, lines 14-31 and col. 11, lines 16-33].

19. Regarding claims 20-23 and 29-36, claims 20-23 and 29-36 have similar limitations as claims 1-4 and 10-17. Therefore, the similar limitations are disclosed under Risley for the same reasons set forth in the rejection of claims 1-4 and 10-17 [Supra 1-4 and 10-17].

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 6-9 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Risley in view of Ish et al., ("Ish"), USPN 5,778,430.

22. Regarding claim 6, Risley substantially discloses the claimed invention. Risley discloses updating caches [Risley, col. 3, line 59 – col. 4, line 6] but does not specifically disclose updating the cache by removing a least recently used memory component identifier in accordance with a least recently used routine. However, Ish, in the same field of endeavor, discloses updating the cache by removing a least recently used memory component identifier in accordance with a least recently used routine [Ish, col. 3, line 44 – col. 4, line 18]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate updating a cache, disclosed by Ish, into the negative cache system, disclosed by Risley, in order to efficiently manage the cache.

23. Regarding claim 7, Risley-Ish further discloses updating the cache by adding a most recently used memory component identifier in accordance with a most recently used routine [Risley, col. 3, line 59 – col. 4, line 6] [Ish, col. 7, lines 16-29].

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24. Regarding claim 8, Risley-Ish further discloses updating the cache by adding a most frequently searched memory component identifier in accordance with a most frequently searched routine [Risley, col. 3, line 59 – col. 4, line 6] [Ish, col. 6, lines 7-17].

25. Regarding claim 9, Risley-Ish further discloses updating cache by removing least frequently searched memory component identifier in accordance with least frequently searched routine [Risley, col. 3, line 59 – col. 4, line 6] [Ish, col. 7, lines 30-49].

26. Regarding claims 25-28, claims 25-28 have similar limitations as claims 6-9. Therefore, the similar limitations are disclosed under Risley-Ish for the same reasons set forth in the rejection of claims 6-9 [Supra 6-9].

27. Claims 18, 19, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Risley in view of Arimilli et al. ("Arimilli"), USPN 6,658,536.

28. Regarding claims 18 and 19, Risley substantially discloses the claimed invention. Risley discloses at least one memory component identifier has been accessed by at least one of the plurality of computer processes [Risley, col. 10, lines 14-31 and col. 11, lines 16-33] but does not specifically disclose increasing or decreasing the number of the memory component identifiers to be placed into the cache. However, Arimilli, in the same field of endeavor, discloses increasing or decreasing the number of the memory component identifiers to be placed into the cache [Arimilli, col. 1, line 61 – col. 2, line 9 and col. 5, lines 26-53]. It would have been obvious to one having ordinary skill in the

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art at the time the invention was made to incorporate increase/decrease cache, disclosed by Arimilli, into the negative cache system, disclosed by Risley, in order to effectively extend caches.

29. Regarding claims 37 and 38, claims 37 and 38 have similar limitations as claims 18 and 19. Therefore, the similar limitations are disclosed under Risley-Arimilli for the same reasons set forth in the rejection of claims 18 and 19 [Supra 18 and 19].

Allowable Subject Matter

30. Claims 5 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the distinctly claiming limitations of the base claim and any intervening claims.

31. The following is a statement of reasons for the indication of allowable subject matter: As to claim 5, the prior art of record does not teach or suggest the combination of limitations as claimed within the environment of claims 1 and 4, in which the storing in the first name cache a history of paths of the directory entries and the file entries that do not contain the specified file; in response to a subsequent request to open the specified file, searching through the history of the first name cache to locate the directory entries and the file entries that do not contain the specified file; and returning a response that the specified file is not contained on the disk, as claimed. The Examiner fails to see any

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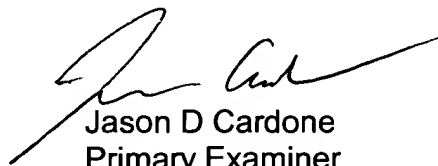
teaching or suggestion in the prior art of record for placing these limitations into the limitations of the combination of claims 1 and 4.

Conclusion

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason D Cardone whose telephone number is (703) 305-8484. The examiner can normally be reached on Mon.-Thu. (9AM-6PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Harvey can be reached on (703) 305-9705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jason D Cardone
Primary Examiner
Art Unit 2142

March 17, 2004